

Chapter 4: Roles, Functions, Statuses and Rights in VOMRS

4.1 Member-to-Functions Mapping via Roles

VOMRS has adopted a technique of member-to-functions mapping in which the permissions for performing particular functions in the VOMRS are grouped into a role. An individual who has applied for VO membership but has not yet been approved is assigned the role of “applicant”. Once an applicant has been approved, his or her role is changed to “member”. The functions associated with these roles are discussed in Chapter 8: *Functions Available to VO Applicants* and Chapter 9: *VO Member Functions*.

In addition to the member role, designated VO members may be assigned one or more administrative roles, granting them greater permissions that go along with greater responsibilities within the VOMRS system. There are three categories of administrative roles:

VO Admin	This category includes the roles VO Administrator and Representative.
Grid Admin	This category includes the roles Site Administrator and Local Resource Provider (LRP).
Group Admin	This category includes the roles Group Owner and Group Manager.

These roles are discussed in Chapter 11: *VO Administration Roles and Functions*, Chapter 12: *Grid Administration Roles and Functions*, and Chapter 13: *Group Administration Roles and Functions*, respectively.

4.2 Membership Status

Each VO member has a status which indicates his or her current membership standing. This is referred to as “membership status” (as distinct from “authorization status”, see section 4.3 *Authorization Status*). Members will be automatically notified, by default, when their membership status changes. The defined statuses are:

New	This status is given to applicants to the VO; it remains in effect until the applicant's request is processed and either approved or denied.
Approved	This status is given to members in good standing; this status is granted automatically upon obtaining an authorization status of "approved" (see section 4.3 <i>Authorization Status</i>) by your representative.
Denied	This status is given to applicants who do not meet membership requirements for any reason. They do not become VO members. Individuals with this status can access the web UI the same as applicants, but cannot perform any operations in the VOMRS, and cannot use grid resources.
Revoked	This status indicates that the VO member is in the CRL (certificate revocation list) of the trusted CA. Members with this status cannot access the VOMRS web UI. A user in this situation must reapply with the CA in order to get a new certificate, then provide his or her new DN and CA to the VO administrator.
Suspended	This status indicates that the VO member is currently not in good standing in the VO. Members with this status can access the web UI, but cannot perform any operations in the VOMRS, and cannot use grid resources. The VOMRS does not store data indicating the reason why this status was assigned to a member; the member must contact his or her representative or VO administrator for that information.

4.3 Authorization Status

Authorization Status, as contrasted with membership status (see section 4.2 *Membership Status*), refers to a VO member's authorization to use particular grid resources. There are three levels of authorization. At the highest level, a representative has the authority to grant or deny, on an individual basis, authorization to use any grid resources at any site recognized by the VO¹ (this is considered a "global" authorization). Down one level, a site administrator has the authority to grant or deny, on an individual basis, authorization to use

1. A VO administrator also has this authority.

any resources located at his or her site. Ultimately, each local resource provider (LRP) has the authority to grant or deny, on an individual basis, authorization to use the resource(s) he or she controls.

Authorization status as a concept thus has three “phases”: *Representative*, *SiteAdmin*, and *LRP*. Depending on agreements between your VO and the individual sites and resource providers, the VOMRS may not implement or enforce all three phases. The only phase that the VOMRS software requires is the *Representative* phase; VOMRS must transmit this information to VOMS. If either or both of the other phases are implemented (*SiteAdmin* and *LRP*), members will have a set of individual authorization statuses for each site and/or resource.

There are three possible authorization statuses:

New This authorization status is given to applicants to the VO (for all three phases); it remains in effect for the *Representative* phase until the representative changes the applicant’s authorization status to “approved” or “denied”. After this, if the other phases are implemented, they would be handled similarly.

Approved

This authorization status indicates that the member is approved for access to grid resources. Details follow:

- *Representative phase*:
 - Initial assignment of authorization status “approved” to an applicant by his or her representative triggers a change in the applicant’s membership status to “approved”, thus making the applicant a VO member.
 - This is a prerequisite to obtaining authorization from a site administrator to use grid resources at his or her site.
 - At this stage the VOMS database is populated with member’s information, if the synchronization with VOMS is turned on.
- *SiteAdmin phase*: Assignment of authorization status “approved” to a member by a site administrator indicates that the member is authorized to access grid resources at the corresponding grid site. This is a prerequisite to obtaining authorization from an LRP to use a particular grid resource at the site.
- *LRP phase*: Assignment of authorization status “approved” to a member by an LRP indicates that the member is authorized to access the corresponding grid resource.

Denied This status is given to applicants or VO members who are not eligible to access grid resources, for any reason. Details follow:

- *Representative phase*:

- This triggers changes in membership status. Membership status becomes “Denied” as well.
- This effectively cuts off the access to all grid resources because VOMRS will not proceed with member authorization at a grid site or resource, and will not populate the VOMS database (when synchronization with VOMS is turned on).
- *SiteAdmin phase*: Assignment of authorization status “denied” to a member by a site administrator indicates that the member is not authorized to access grid resources at the corresponding grid site.
- *LRP phase*: Assignment of authorization status “denied” to a member by an LRP indicates that the member is not authorized to access the corresponding grid resource.

4.4 Membership Rights

Membership rights represent the permissions granted by a VO to a member regarding general use of grid resources. Full rights grant the member job processing rights on grid resources (as allowed by the member’s authorization status) in addition to access to the VOMRS interface; limited rights grant the user access to the VOMRS interface only. VOMRS will populate the VOMS database (when synchronization with VOMS is turned on) and will proceed with member authorization on grid sites only for members with full rights.

When applying for membership, an applicant requests the rights he or she will need. Full versus limited rights are also discussed in section 7.3 *The Registration Form*.

The subscription service (see section 8.4 *Subscribing to Event Notification*) is primarily designed to disseminate information about grid resource users (i.e., members with full rights). Therefore, VOMRS database changes regarding members with full rights are included in notifications to other members, according to the latter’s roles and subscriptions; whereas changes regarding members with limited rights are not included.